

What is claimed is:

1 1. An Nb_3Sn -based superconductive wire comprising a
2 bronze/filament aggregate obtained by placing a lot of niobium
3 (Nb) or niobium alloy filaments in a copper (Cu)-tin (Sn)-based
4 alloy matrix,

5 wherein said niobium or niobium alloy filament constituting
6 said bronze/filament aggregate is a composite filament obtained
7 by combining with a filament reinforcing material having
8 mechanical strength under temperature not more than room
9 temperature after thermal treatment for producing an Nb_3Sn -based
10 superconductive compound, larger than the mechanical strength
11 of said niobium or niobium alloy.

1 2. The Nb_3Sn -based superconductive wire according to Claim
2 1 wherein said filament reinforcing material is composed of a
3 niobium alloy, tantalum (Ta), tantalum alloy, tungsten (W),
4 tungsten alloy, titanium (Ti), titanium alloy, molybdenum (Mo),
5 molybdenum alloy, vanadium (V), vanadium alloy, zirconium (Zr),
6 zirconium alloy, hafnium (Hf) or hafnium alloy.

1 3. The Nb_3Sn -based superconductive wire according to Claim
2 1 wherein said composite filament comprises said filament
3 reinforcing material in volume fraction of 0.05 to 0.65 in the
4 composite filament.

1 4. The Nb₃Sn-based superconductive wire according to Claim
2 1 wherein said composite filament has a diameter of 15 μm or
3 less.

1 5. The Nb₃Sn-based superconductive wire according to Claim
2 1 wherein the volume ratio of the niobium or niobium alloy forming
3 said composite filament to the copper-tin-based alloy matrix
4 is 0.8 or more and 2.5 or less and the volume ratio of the composite
5 filament to the copper-tin-based alloy matrix is 0.3 or more.

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